



Attorney Docket No. 9040-21IP

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Frank B. Wyatt et al.  
App. No.: 10/611,478  
Filed: July 1, 2003  
For: COAXIAL CABLE HAVING WIDE CONTINUOUS USABLE BANDWIDTH

Group Art Unit: 2831  
Examiner: C. Nguyen

November 29, 2006

**Mail Stop Amendment**  
**Commissioner for Patents**  
**Box 1450**  
**Alexandria, VA 22313-1450**

**DECLARATION OF ROBERT WESSELS**  
**PURSUANT TO 37 C.F.R. § 1.132**

I, Robert Wessels, do hereby declare and state as follows:

1. I am currently Vice-President of Engineering of the Network Division of CommScope, Inc. of Hickory, North Carolina (CommScope), and have held this position since January 2001. I have been employed with CommScope since 1990, and have been employed in the field of optical fiber and copper telecommunications cable design and manufacturing since 1983. I hold a Bachelors of Chemical Engineering degree from the Georgia Institute of Technology, which I received in 1982.

2. I am a named inventor under the above-captioned patent application. I have read U.S. Patent No. 5,959,245 to Moe et.al. (Moe) and am familiar with the construction and use of the cables described therein.

3. Moe focuses on the mechanical performance, specifically bending performance, of a 50 Ohm coaxial cable having a copper center conductor, a foam dielectric layer and an

adhesive layer bonding the core to the copper outer conductor. A key aspect of the cable described in Moe is the controlled peel strength of the core/outer conductor interface. Other key properties include the stiffness of the core relative to the stiffness of the sheath and the minimum bend diameter of the cable. This product is designed for cellular radio applications, specifically for outdoor tower installations.

4. In contrast, the cables described in the above-captioned patent application are designed for use in Hybrid Fiber Coax (HFC) networks by cable television (CATV) operators. In order to be effective in an HFC network, the nominal impedance of the cable is 75 Ohms, which provides improved transmission performance for voice, video and data signals relative to 50 Ohm cabling. In addition, the coaxial cable described in this patent application specifically targets broadband electrical performance attributes that can optimize an HFC network, including structural return loss (SRL) (at least about -25 dB) and signal attenuation. The materials of the cable are selected so that the cable has a velocity of propagation of at least 88 and a usable bandwidth between about 5 MHz and the cut-off frequency of the cable. The Moe cable does not have this combination of properties. With the exception of having a minimum bend radius of less than 5 times that of the diameter of the cable, the mechanical performance of the cable is not a focus for the cable as it is for the Moe cable. For example, a variety of conductor materials in addition to copper are discussed in the application including aluminum and copper clad aluminum, whereas Moe limits his invention to copper conductors only.

5. If the 50 Ohm cable described in Moe were employed in an HFC network, the resulting network would not operate optimally, because the 50 Ohm nominal impedance of the cable simply does not provide the transmission capacity or interface properly with active network components. The added weight of the Moe 50 Ohm cable would also negatively impact installation of the cable in an HFC network.

6. I do hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 19 of the United States Code and that such willful false statements may jeopardize the validity of the above-referenced application or any patent issued thereon.

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Robert Wessels

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Date